

# **School-Community Linkages In Environmental Education**

**Factors of success in PFIE, non-PFIE and  
Community schools in Mali**

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## **Executive Summary**

The goal of this study was to assess the situation in Mali and to identify the factors that contribute to the success of environmental education programs, so as to replicate these programs in other African countries or other areas facing the same types of problems.

In order to determine these factors, field visits were made to three sites: 1) Bamako, which represented an urban site, 2) the schools in Sikasso for the rural setting, and 3) some schools in the protected forest called Dioforongo in the Ségou region, which represented the protected site.

At beginning of the 1990s, the Inter-State Committee for the Fight Against Drought in the Sahel (CILSS) initiated an environmental education program (PFIE) in the basic educational institutions in the member countries. In Mali, about 320 schools are involved in this program. Some community schools supported by local parent associations may also use a non-official curriculum which is quite rich in environmental content. For the purposes of this study and given the environmental content of the curriculum implemented by PFIE schools and some community schools, public non-PFIE schools, public PFIE schools and community schools were visited at each site.

Data-gathering instruments were designed around three areas: 1) knowledge of the environment, 2) information on environmental programs, and 3) the relationship between this information and community practices.

Based on the information gathered, 5 school-related and 4 non- school-related factors were identified as elements that determine the success for school-community linkages. Three factors were also noted as potential obstacles to a relationship between schools and communities involving an environmental education program.

The school-related factors are:

- 1) good knowledge of environmental issues by teachers;
- 2) development of a spirit of initiative among teachers and principals, particularly with respect to new ways of developing positive environmental attitudes among students and the community;
- 3) changing of environmental attitudes among students through new learning experiences, modeling and reinforcement;
- 4) development of exchanges and interactions with other teachers who share environmental concerns; and
- 5) existence of a school-based outreach program to the community.

The following non school-related factors were identified:

- 1) getting the community to identify and prioritize environmental problems;
- 2) assisting the community in the development of collective or individual initiatives designed to address these problems;
- 3) development of joint mini-projects between the school and the community;
- 4) establishment of a community structure responsible for working with the school to carry out the various environmental projects.

## ***Table of Contents***

<b>Chapter</b>		<b>Page #</b>
	Executive Summary	2
1	Introduction	5
2	Research Objectives	6
3	Methodology	8
	3.1 Site Description	8
	3.2 Target Groups	10
	3.3 Tools	11
	3.4 Types of Schools	11
4	Results	13
	4.1 Presentation of Results: Urban Site	13
	4.2 The Protected Site	24
	4.3 The Rural Site	35
5	Synopsis	38
6	Conclusion	43
	Annexes	44

## ***1. Introduction***

GreenCOM is a USAID-funded Global Project for Environmental Education and Communication. It is implemented by the Academy for Educational Development (AED) based in Washington, and its partners. GreenCOM activities have occurred in 23 countries throughout the world, but the Project is especially active in eight countries, including Mali where an office with a resident technical advisor is located.

GreenCOM received funding from the Education Office of the Africa Bureau in USAID/Washington to conduct an assessment of successful environmental education (EE) projects in Africa. The general objective of this assessment was to identify models that have worked in educating both students and communities in environmental issues and may have initiated environmentally friendly practices among both students and parents. Mali is one of the three African sites selected for this assessment along with Zambia and Tanzania. This report presents the results of the assessment carried out in that country.

The activities assessed here were not initiated by GreenCOM.

## ***2. Research Objectives***

The purpose of this study was to identify what factors, internal and external to schools, have led to successful EE programs. In the context of this assessment, successful EE projects are those where the intervention has been able to change environmental knowledge and practices among students, parents and the local communities at large. Information gathered through this assessment may be used in designing EE interventions in other countries in Africa.

In the case of Mali, environmental education in the formal education sector mainly occurred as a result of the implementation of the Environmental Education and Information Program (PFIE) funded by the European Union. This program is implemented by the Inter-State Committee for the Fight Against Drought in the Sahel (CILSS) and was initiated in the sub region in the early 90's. Educational activities are carried out in seven countries, including Mali. PFIE disseminates a standard curriculum in all those sites, and its emphasis is the development of awareness, attitudes, and practices to fight desertification. In Mali, PFIE has benefitted about 320 schools.

Due to the limitations faced by the Ministry of Basic Education to cover the school age population of the country, Mali has seen an effort on the part of the NGO community to fill the gap. As a result, environmental education in Mali may be also taking place in schools that are managed and funded by local communities and receiving technical support from NGOs. The curriculum being implemented in some of these schools is not the official curriculum implemented in classical public- sector elementary schools. Its content may be richer in environmental issues than would be the case in non-PFIE schools in the public sector. Community schools, particularly in the southern region of Sikasso, are trying to be more responsive to the needs of communities that often built them and pay partially or in full for teachers' salaries. In so doing, they are not only addressing

more environmental questions than classical public schools do, but they may be addressing them in ways which have more practical implications for both students and their parents.

For the implementation of this study, it was decided that the assessment would be carried out in three types of schools

- PFIE schools in the public sector
- Community schools
- Non-PFIE schools in the public sector.



### **3. Methodology**

In carrying out this study, three sites were identified based on characteristics specific to each one.

- 1) Bamako, the capital of Mali, as representative of the urban milieu.
- 2) Villages located either within or on the edge of the protected forest of Dioforongo some forty miles from Ségou in Mali's 4<sup>th</sup> administrative region to represent a protected area.
- 3) The villages around Kolondieba and Sikasso to represent a typical agricultural rural environment

At each site, three types of school were visited: non-PFIE (Environmental Information and Training Program) schools, PFIE schools and community schools. Information on qualitative factors was collected in the schools and communities using interview questionnaires prepared for students, teachers and principals, and parents. Copies of the instruments can be found in Annex 1. A data chart was filled out for each school.

In this study, considered qualitative in nature, data will be presented and then analyzed. An inductive approach is used so at first there will be a description of findings per site. At each site, the results of the assessment per school will be presented. After the description, findings will be analyzed and integrated in order to draw the main implications.

#### **3.1 Site Descriptions:**

##### **Urban Site: Bamako**

The city site selected for this study was Bamako. According to the most recent census figures (April 1998) the city has a population of 1,100,000. Bamako, the economic and political capital of Mali, is located in a valley along the banks of the

Niger River. The high population density, the anarchic development of the city, and the concentration of all the major industrial complexes in the city have produced an urban center plagued with serious environmental problems such as pollution, a lack of hygiene and improvement projects, a shortage of running water, sewage and garbage disposal problems, etc.

### **Rural Site: Sikasso**

In the Sikasso region, in southern Mali, farming or livestock-raising villages were chosen to represent a rural milieu. These villages have environmental problems which are different from those of the city. The main agricultural product in the region of Sikasso is cotton, Mali's best export commodity. In contrast to the two other sites that were visited during the school year, data collection in the Sikasso region took place during the month of September 98 during the preparation and initiation of the research project.

### **Protected Site: The Dioforongo National Forest**

Mali is a Sahel country with desert extending over two thirds of its territory. Faced with the phenomenon of desertification and needing to preserve areas for plant and animal life, the Malian leaders have designated areas and turned them into protected sites. The Dioforongo Forest is one of these sites. It is located 40 kilometers from Ségou and is known especially for its vegetation, which includes several rare plant species such as *AEre* and *AKarate* etc.

A national highway linking Bamako with all of the central and northern regions of Mali passes through the forest, and this has helped to develop a thriving economic activity based on the sale of wood and charcoal.

## **3.2 Study Groups**

### **Students**

During the course of this study, the third-grade and fifth-grade students were targeted. These two years are key turning points in the Malian educational system. In fact, the first cycle of basic education in Mali extends over six years. This can be divided into pairs of two grades each: the first and second grades are a type of initiation, the third and fourth grades are devoted more to discovering aptitude and the fifth and sixth grades concentrate on orienting the student toward the appropriate field. Therefore the third and fifth years correspond to the beginning of the aptitude and orientation phases.

In each school in Bamako region, four students, including two girls, were selected in the third-grade, and four students, including two girls, were selected in the fifth-grade. Students selection in Sikasso was based on availability as the study in that region was done when the school year was about to begin.

### **Teachers / Principals**

The principals of schools were also interviewed in this assessment. In some cases, the teachers were also questioned in order to better understand how the school integrates issues into its curriculum as well as how it deals with getting information to students and educating parents about the programs.

### **Community Representatives**

A double definition of community is in order. One definition pertains to the city of Bamako, where the community structure is heterogeneous, and the other definition pertains to rural towns where the community is still homogenous.

In fact, given the urban character of Bamako and the diverse origins and activities of people living in the same neighborhood or the same compound, the

notion of “community” is not a very relevant or usable concept. In Bamako, our community dialogue was therefore with people of that particular neighborhood involved in the life of the school or with the school board of the community schools.

In contrast, in rural areas and the area near the protected park, where the sense of belonging to a community is very strong, our assessment included interviews with community representatives including the village chief or one of his advisors, opinion leaders and representatives of village organizations (*tons*, women's associations, youth groups, etc.). Parent-teacher associations were also involved.

### **3.3 The Instruments**

The instruments used were interview guides and an identification sheet for the school. In line with the research questions, the guides were organized around three points: the perception of the environment, knowledge of or information about environmental education programs, and linkages between the community and the school in the area of environmental issues.

The identification sheet included information about the establishment of the school and what it had achieved in terms of infrastructure and the environment. This assessment paid special attention to the environmental conditions in schools as EE can be practiced inside the classroom and well as on school grounds. In Mali, the maintenance of school grounds is difficult if the facilities are not fenced in. In fact, closure around the schools facilitates environmental management and protection activities. So, this assessment took a look at such aspects of school facilities.

### **3.4 Types of Schools**

#### **PFIE School**

This is a classic school which implements, in addition to the official curriculum, the environmental training and information program (PFIE). Begun in 1990, the PFIE is an environmental education program intended for elementary schools in CILSS countries. The goal of the PFIE is to instill in young people - and through them the entire population - attitudes, values, abilities and skills, as well as an active and aware participatory behavior necessary for a rational management of the fragile resources of the Sahel, and in particular for finding solutions to the problems of drought and desertification@ (CILSS and Institute of the Sahel, 1995)

### **Community School**

This is a school established and administered by the community through a management committee or a Parent-Teachers Association (PTA). These schools are characterized by flexibility in the language used for instruction, the teaching program and the organization of the school year. The state plays a role in providing professional support to the teachers and helps out in furnishing school supplies. Our sample includes two types of community schools. The community schools of Koulikoro and the Bamako District are supported by World Education, a non-governmental organization. They implement the official school curriculum. The community schools in Sikasso, on the other hand, are supported by Save the Children and have a totally different curriculum.

### **Non-PFIE School**

These classic schools make up 90% of the schools in the Malian educational system. In contrast with the PFIE schools, they have no environmental training or information program in their curriculum. These schools serve as control schools in the context of this study.

## **4. Results**

### **4.1 Description of Findings: The Urban Site**

#### **Sabalibougou C – A Non-PFIE School**

Located near the airport in a disadvantaged, unstructured neighborhood, the Sabalibougou basic school is part of a group of five schools; four elementary and one secondary. The “school group” opened at the beginning of the 1994-95 school year and is under the jurisdiction of the Basic Education Inspection Office AVI of the Bamako District.

Sabalibougou School C (elementary program), the subject of this study, is a non-PFIE school. There are 775 students with 427 boys and 348 girls studying in the first six grades of basic education. The school buildings are in good condition; the school is protected by an outside wall and has a water tap. There is no shade, however, and no ornamental flower beds.

#### **Students**

The interviews with the Sabalibougou students indicated that there is no environmental education or information program in this school, which would raise their consciousness about their environment and cause them to initiate action to protect it.

At school, the vast majority of the students are careful, as they are at home, not to dirty the courtyard or to splatter water on the passersby. They place the garbage in trashcans (seven of eight) and pour the wastewater into the gutters (four of eight). The interview showed that in the areas of household fuel and improving sanitary conditions, 7 of the 8 students questioned prefer wood to charcoal and

propane gas and at least four use a traditional fireplace which requires more wood for food preparation. As for improving sanitary conditions, all had participated in a general cleanup effort at the school. In contrast, less than half had been involved in a neighborhood improvement effort. In addition, all of the children know at least one person who sells wood or charcoal in the neighborhood. But the consequences of excessive timber cutting remain superficially understood. The fact is that for some people, there will simply be no more trees, while for others, if the activity continues, the forest will be a good area for farming or construction.

The students identified the school, water and food as the neighborhood's major environmental issues. But they did not identify any behavior or activity that might endanger these environmental elements. The students learned to identify these problems empirically and not through their school learning.

Regarding environmental concerns within the school per se, the students learned as part of their school curriculum how to do two things at school: take care of the flowers and clean up the courtyard. These topics have not been introduced into family conversations.

### **Parents / The Community**

The interviews with these two segments of the public gave no indication of any cooperation between the school and the community on environmental problems. The members of the community seemed to have a vague perception of the environment. In fact, when they spoke about what made up their own environment, they mentioned the school, sanitary conditions and their health implications, sewage disposal, neighborhood redevelopment, the mosque, and the *medersa* (religious school). They gave priority to neighborhood rehabilitation, installing running water, and bringing in electricity. But they did not have a clear idea about practices that could be detrimental to different aspects of their environment or surroundings. Faced with these problems, individual or collective initiatives such as families digging trenches for the elimination of wastewater or

reforestation (an initiative taken by associations) have taken place, but they are not linked to school-based activities. They admit that the school has never contacted them and that they have never themselves contacted the school concerning joint community/school environmental protection activities.

The interview revealed that the community, represented here by two parents of students and by an officer of the PTA who held the position of secretary in charge of school attendance, does not have a relationship with the school on environmental issues. No joint activities, no initiatives from either side aimed at resolving environmental problems have been undertaken.

### **Principal / Teacher**

The interview with the principal revealed that there is no environmental education program in his school. The knowledge which teachers and students have of environmental issues is very limited. The only opportunity during the year for students to learn about the environment is when they study civic and moral education, a two week course initiated at the beginning of the 1998-99 school year. The few initiatives developed by the teachers (replanting, ornamental flowerbeds etc.) are destined to fail for two reasons: a shortage of water and the behavior of the children who systematically uproot the young plants.

### **Torokorobougou A: PFIE School; Basic Education Inspection Office VI Bamako District**

Located in the heart of the neighborhood, the Torokorobougou School is among the first generation of schools which received support from PFIE. The school was established in 1970 and is located in the same compound as Torokorobougou B and C. It has 710 students - 380 boys and 330 girls. The buildings are in good condition and a wall protects the school. There is a water tap and latrines. The schoolyard is well shaded and a tree and vegetable nursery can



be seen within the compound. The school has a vegetable garden and several ornamental flowerbeds.

### **Students**

In contrast to Sabalibougou, the students of Torokorobougou A receive information on the environment within the framework of the PFIE. In addition, one can see from the way they expressed themselves that they are truly aware of environmental issues and show willingness to work to solve environmental problems.

There is a trash can in each classroom and an area of the schoolyard has been set up for garbage disposal. All of the students claim that they place their waste in trashcans both at school and at home. The same is true for wastewater, which is systematically poured into gutters or in an isolated area but never in the street. The main reason students give for this precaution is that wastewater and domestic garbage can cause disease. The students participate in all the sanitary improvement activities at school and in the neighborhood. Furthermore, they believe that excessive cutting of forest timber can lead to desertification, reduced rainfall, a reduction of the livestock, and the transformation of the forest into a vaguely defined area which might be used as a construction site.

The environmental aspects which were identified as problematic are: water, trees, health and school. Activities or behaviors which might be detrimental to these environmental elements are: fishing, women who make indigo, the uprooting of young plants, and wastewater which is poured into the streets by the neighbors of the school.

Five of the students identified these issues because of the school program. Seven of the students learned how to maintain a garden, take care of flowers and clean up the school yard; three learned how to plant a tree, one learned an erosion-fighting technique and one learned how to build a fuel-efficient stove. This learning all took place in the school and students have indicated that they passed it on to the families. A student stated that he had personally built a fuel-efficient

stove for his mother, and two others claimed that they help their father to plant trees in their field during school vacations. A student maintained that she had discussed the phenomenon of evaporation and cloud formation with her family. The same student suggested that her family regularly sweeps the floors and washes utensils before using them. And one student claimed that he encourages his family to garden because it is useful for everyone.

### **The Community / Parents**

The group participating in this interview represents the two schools of Torokorobougou, A and C. During the course of the interview, the representatives demonstrated awareness of their environmental problems while at the same time indicating that the school and the community were beginning to undertake actions collectively, mainly through reforestation and sanitary improvement projects.

The most important environmental problems identified are the following: poor sanitary conditions, disposing of wastewater and household garbage, and reforestation. The participants are all aware that trees are the lungs of a city and of a neighborhood. Moreover, they maintain that the school has taken the initiative in replanting trees in some public spaces such as the market and the new neighborhood center. Moreover, each time that a student's parent is called to the school because of a study problem or just for a simple visit, there is an opportunity to see the children taking care of the gardens, watering the trees, or hoeing the flowerbeds. Meetings between the school administrators and parents of the students or with the PTA officers also provide opportunities for the principal to educate the community about environmental issues and to introduce the school as a partner in resolving the neighborhood's environmental problems.

The school's dynamism in replanting and in improving sanitary conditions has led the community to encourage the residents of the school to dig trenches to get rid of wastewater which tends to stagnate in front of the main gate of the school. As a result of the school's initiative, the community has also established a

neighborhood follow-up committee, which takes plants offered by the school nursery and distributes them to the people for replanting. The nursery renders a service to individuals and to groups. For example, the Neighborhood Center, which is funded by the Abbé Pierre Foundation, asked the school to replant its courtyard. According to a member of the Board of Directors of the Neighborhood Center, the community made a request to school A. We have seen that it is the first model PFIE school and that the program is a success. The principal of the school is very willing and is a good gardener.® According to the same individual, the Neighborhood Center is planning on putting in ornamental flowerbeds and advice from the school will be useful.

There are individual initiatives, which have come out of the school experience. This is true of a participant who maintains that he was inspired by the advice of the principal to not only build a school and a health center in his village near Bougouni (160 km) to the south, but also to completely plant trees around them. He would come regularly to obtain information from the principal whom everyone affectionately calls the gardener®. The director of the Torokorobougou Health Center came by to pick up some plants at the school nursery in order to replant around the Center. The director of the Neighborhood Center took some plants from the school for planting at his own home.

Considering this testimony, it would seem that the success of the Torokorobougou experience can be attributed to the following factors:

- a) **The principal's willingness and enthusiasm.** A passionate man by nature, he is known as the *gardener principal* because of an area near the river that he devotes to fruit trees.
- b) **Setting up an example through the concrete visible achievements in the school.** The schoolyard is well shaded, and there are ornamental flowerbeds and vegetable gardens.
- c) **The setting up of two nurseries for vegetables and young plants for replanting.** They supply both individual and collective initiatives.

d) **The soliciting of the community to be involved in school-initiated actions.** For example, soliciting their help in resolving certain problems (wastewater problem in front of the school) or approaching them through initiatives such as the replanting of public spaces.

e) **Keeping parents informed of what their children are doing in the environmental arena.**

f) **Finally, speaking to the group** in meetings with parents or with the officers of the Parent Teachers Association.

### **Principal / Teacher**

According to the principal, the school is a social service whose major weapon is educating and making use of resource people in order to bring discipline to the recalcitrant. It is through communication that the hostility of neighbors is overcome.

The school's strategies for communicating with the community are the following: visits to the school facility (a parent who comes to school for an administrative document or to report an absence), general assemblies, meetings, using committed resource people.

The community demonstrates its attachment to the school environmental project through the following activities:

- the payment of fees;
- the forming of follow-up committees to monitor replanting projects in public spaces;
- the donation to the school by certain families of animal manure (sheep or cow) to be used as fertilizer, etc.

In return, the parents see the plants, vegetables and flowers when they come by the school and conclude that they can obtain the same results in working with

these same children. The school has therefore seen an increase in the community's demand for plants. The school is also receiving many requests for advice.

As for the students, the principal has found that they are paying more attention to their environment, that they break fewer branches off the trees and that they ask the school for more and more plants and flower varieties to be planted at home. Certain students are thus tempted to take some plants from the nursery or from the ornamental flowerbeds even though the school may not have a sufficient number of those types. However, "we see this as a useful theft which we do not punish; it is a favorable impact of the project on the child" the principal has explained. Another example of how the project impacts the children positively is the fact that the students of school C with whom school A shared a schoolyard decided to make their own vegetable garden and ornamental flower bed.

#### **4.1.1 Torokorobougou School C: Non PFIE School, Basic Education Inspection Office, VI Bamako District**

Torokorobougou C and A share the same schoolyard. In contrast to school A, C is not a PFIE school. It is a young facility, established in 1993. The total student body is 567 with 286 boys and 281 girls.

The presence of a PFIE school in the same compound has strongly influenced the students and administration of school C; evidence of this can be seen in the well-shaded and well-maintained schoolyard, the ornamental flowerbeds and the vegetable garden.

#### **Students**

The responses given by school C students to inquiries about knowledge and management of the environment do not differ greatly from the responses given by their fellow students in school A. In fact, at home they all place garbage in

trashcans and at school they use the garbage bin. It should be pointed out, however, that there are no trashcans in the classrooms of the non-PFIE schools. In addition, they take care to pour wastewater into the gutters or into the sump. They believe that excessive cutting of wood for cooking is not good and that in the long run it will be catastrophic with negative consequences for everyone.

At school, the students of school C have learned how to take care of the garden and the flowers, and to clean up the schoolyard. Conversations with the families concerning academic progress most often are devoted to grades, homework and test results.

### **Principal / Teachers**

The interview with the principal of School C brought out that environmental education has two components: an educational aspect and a practical aspect. At the educational level, the teachers at his school had received no training and for this reason did not integrate environmental issues into the courses taught. On the other hand, all the practical activities (planting trees, maintaining the garden and flowers, cleaning up the school yard, and placing the garbage in the trash bin etc.) are carried out by the students and the teachers. When they see that their fellow teachers and students across the school are engaged in these activities, they realize after a while that it is a good thing.

In terms of community relations, the principal recognizes that although he does not have the tools for explaining the program to the parents, it is enough for them to see the cleanliness and shadiness of the school yard, and the ornamental flower gardens, decorative flowers, the school vegetable garden and the nursery to realize what has been achieved. According to the principal, practical example is the best educator.

#### **4.1.1 Daoudabougou Community School: Basic Educational Inspection Office V Bamako District**

Daoudabougou is a low-income bedroom community. The distance of the school from the community has led the people to organize themselves and create a four-grade community school (first to fourth grade). The principal and his three assistants have opened the school to 259 students - 106 girls in a temporary facility rented by the community. The buildings are not in good condition, and two of the four classes take place in makeshift shelters. There is no schoolyard, no water tap and no latrines.

The school was one of those selected to participate in the GreenCOM Project to implement the use of a teacher's guide permitting the integration of environmental content to all subject matters. Accordingly, the principal participated in the training program for teachers involved in the project.

## **Students**

The school has no fifth-grade, so the interview was carried out with the four students in the third-grade. What came out of the interview is that in the area of knowledge and management of the environment, students develop a theoretical understanding when environmental themes are integrated into their lessons. In practice, they claim to place garbage in a trashcan or take it to a dump. On the other hand, they throw their wastewater into the street or the yard. The reason given for this behavior is that there are no gutters in the neighborhood. Two of the students prefer using propane gas because using wood leads to forest depletion. On the other hand, one female student preferred wood, saying it was a fuel which was renewable. But she would use a fuel-efficient stove to consume less wood. The students listed the following things as elements of the environment: water, electricity, wood and millet. Burning a lot of wood or throwing dead animals or the remains of traditional medicines into rivers and streams are behaviors which could jeopardize these elements of the environment.

At the school level, it appears evident that the students learned none of the proposed activities. However they do practice these activities at home (i.e., they

plant trees). Two students spoke about cleanup efforts in their own homes. One had hurt himself walking over household garbage. He used the incident to ask his mother and sister to pay more attention to the garbage. They agreed. The other student has a younger brother who relieves himself wherever he wishes (on the garbage pile, in the bedroom and in the courtyard) and the odor bothers everyone. He asked his parents to buy him a chamber pot, but they didn't listen to him.

### **Parents / Community**

The school has no relationship with the community when it comes to environmental issues. In fact, the school has benefitted from the training of GreenCOM Project teachers, but this information was not shared by all members of the school board who were present at the interview. The environmental issues brought up by the community were water, health and schooling. To resolve these problems, the people took several collective initiatives such as forming a *GIE* (Economic Interest Group) to supply the people with drinking water, or establishing a community school to make up for the shortage of schools in the neighborhood. On the other hand, some activities such as replanting or keeping animals from wandering freely are difficult to carry out in the neighborhood due to a lack of water and an uneducated and not very civic-minded population.

During a meeting, the principal informed them of a new school project on environmental education and information. But no concrete results have been achieved by the school and community in terms of working together on the environment.

### **Principal / Teacher**

The community school's experience with the GreenCOM Environmental Communication and Education Program began in September 1998. The principal was trained by Kati. The decision to include the school in the program was made



by the inspector. The officers of the PTA, who administer the school, are informed but the rest of the community must await the next general assembly before receiving any information. The school has not yet initiated an environmental project as the teachers are still digesting the training received.

## **4.2 The Protected Site**

### **4-2-1 Zambougou: ETIP School, IEF Ségou S**

The basic school of Zambougou was established in 1959. It has a total student population of 203 divided among five grades (there is no first grade). Located along the Bamako-Ségou national highway on the edge of the Dioforongo National Forest, the school of Zambougou is not protected by a wall and has no toilets. The buildings, however, are in good condition, the schoolyard is shady and there is a well and a PFIE garden protected by some wire fencing.

### **Students**

The majority of students whom we met know what the environment is and know about the problems of environmental management and protection. More than half of the students (seven out of eight) place their trash in specific places (the garbage dump at home and wastebasket at school). Students argued that if the garbage is disposed of properly, it can be used as fertilizer. Four students poured their wastewater into the street, two of them put it in a sump and two poured it onto the garbage dump so that the garbage would decompose faster. As for home fuel, only two students would use wood for cooking.

Finally, the priority environmental issues brought up by the students were the following: deforestation (3), fields and fertilizer (3), lack of water and grain (1). Activities and behaviors which could endanger some of these elements are excessive wood cutting and forest fires. The school had taught them to identify

these problems. In fact, upon our arrival at Zambougou, we saw that the first grade teacher and his class had gone off to the national forest for an observation lesson during which they learned about deforestation resulting from excessive cutting and forest fires.

All the children were introduced to the techniques of planting trees, maintaining the garden and the flowers, and to a lesser extent the building of fuel-efficient stoves and making natural fertilizer. Putting this knowledge to work at home met with less success. In fact, only three students made any attempts to do this. One student, whose parents raise sheep, talks about animal protection within his family, especially when he and his brother go out to bring the animals home in the evening. Another student, whose brother is the officer of the Forest and Water Bureau, planted young baobab trees at home. Finally, a third student put down tree seeds to grow a live hedge in an attempt to slow down erosion.

### **Parents / The Community**

There were seven people present at the community meeting, including five women. With the exception of a few village women who use the PFIE space at the school, the connection between the school and the community seemed to be “forming” and yet weak. The crucial environmental issues were listed as follows: the health center, water, and milling equipment to make life easier for the housewives. The village is waiting for a funding organization to help resolve these problems. The village is carrying out replanting activities together with the school. Steps have been taken to protect the national forest. There is also a *Akungo tiguï*, the owner of the forest, who can authorize or refuse access to the forest.

Within the school, the PFIE has initiated a project to create women's gardens. The teachers and project director have included the people in this project from the very beginning. The school has developed an area which was made available to the villagers for them to have vegetable gardens. The school provides water and any interested family can obtain a lot to cultivate. The school keeps a lot

and cultivates it for itself. The school plants young trees on the lots which have been distributed to the community, and the individual gardener has a responsibility to keep the trees watered. According to the community, the school sets up the nursery and makes it available to the villagers. The income from sales is returned to the gardeners. This strategy has apparently interested so many families that the school can no longer satisfy the demand.

The community, for its part, asks its members and former students to purchase school supplies for their brothers and children who are in school.

### **Principal / Teachers**

Zambougou was part of the initial PFIE cohort. The village was chosen for several reasons including its location at the gateway to two protected forests (Dioforongo and Diaka), and the intensive use of the two forests by the villagers and other people living in the area. In coming to this village, the project brought with it schoolbooks for the students, as well as gardening equipment (wire fencing, wheelbarrows, hoes, shovels, etc.). The teachers benefitted from a unique training in environmental education, and the village benefitted from obtaining an enclosed site with a well.

The strategies to involve the community, which were developed by the school, include periodic meetings and communicating with those who use the site. During the inter-school meetings on the environment, the village was invited to select delegates who would work with the school. These are generally opinion leaders or influential people able to convince those who are reticent.

The school also tries to persuade through example. In fact, this first PFIE site has today become a very wooded area with many varieties of plants. The program has been transferred to another site. The people are beginning to appreciate the importance of reforestation. There have been collective reforestation initiatives as well as individual efforts.

The school works with the water and forest officer to organize environmental education courses for the people and for the officers of other technical services. In this way people are taught about cutting and pruning trees.

The school has set up a nursery for the people and for the surrounding communities. In this way, the garden of the community school at Dioforongo is supplied by the Zambougou nursery.

#### **4-2-2 Dioforongo: A Community School**

The school opened in 1995. It is located in the village of Dioforongo, which has given its name to the protected forest. The school has a total of 184 students (114 boys and 70 girls) divided into the first four grades of primary school. The school buildings are in good condition, but the school is not protected by an exterior wall, the schoolyard is not shady and there is no water. In addition to the protected forest, the village of Dioforongo has the Bakaridjan Museum- Bakaridjan was one of Ségou's major personalities during the Bambara ascension.

#### **Students**

The interview with the students revealed that the school, which was to be the starting point for environmental education, has not yet begun to play this role at Dioforongo. In fact, all the students questioned claimed that they throw their trash in the schoolyard or in the classroom. At home, only two used a trashcan. As for wastewater, the students pour it into a large ditch (2), or on the garbage dump (1), and the others throw the water into the courtyard. More than half prefer to use wood because it is most available. Two use a traditional fireplace because they are unfamiliar with the fuel-efficient stove. The most vital elements of the environment are animals (this was mentioned three times), the fields, farm equipment and people. No student, however, cited a behavior or an activity which might destroy one of these elements. At school, all students claim to have participated in cleanup projects, although with the exception of garden maintenance, they learned

none of the other proposed activities. The garden with some flowerbeds entrusted to students provided the opportunity for discovering this activity. What was learned at school does not seem to have been communicated at home.

### **Parents / Community**

For this interview, we met with three PTA members and two parents of students. The relationship between the school and the community is limited to collecting the monthly student fees to pay the teachers. The two entities have not yet established close cooperation on environmental issues. The main environmental problem identified was insufficient rainfall. All the other problems identified (deterioration of the forest, poor harvests, etc.) were, in their opinion, consequences of the lack of rain. They attribute this low rainfall average to divine will. Collective or individual initiatives developed in the village (well-digging, replanting trees, etc.) were not a result of any environmental activity by the school or its officials.

### **Principal / Teacher**

The interview with the principal and one of his teachers revealed that the school does not have an environmental education program. They are aware of the environmental problems in the village, namely lack of drinking water during the dry season, brush fires and failure to comply with protected-species state in the forests.

However, the school has not made any efforts to educate the people so as to make them more aware of the environment. Conversely, the community seems to relegate the school to its role of teaching children, since it does not solicit any involvement by the school.

### **4-2-3 Massala: PFIE school**

Massala is a first-generation PFIE school. The school dates back to the time of Independence. It currently has 368 students, 114 of whom are girls. It has 6 grades. The buildings are dilapidated; one classroom is in a temporary shelter. The school is not surrounded by a wall and does not have toilets. It has a water tap and a well. The courtyard is shady.

### **Students**

Massala has a lot of experience in environmental education. The interview also revealed that all eight students throw their trash in a trash bin or in a garbage dump in order to use it later in the fields or the school garden. Likewise, only one student throws out wastewater in the courtyard. All the others throw the water out on the garbage dump to facilitate its transformation into fertilizer and to prevent garbage from being carried off by the wind. This primitive behavior correlates with their perception of household fuels. Indeed, seven of the children prefer propane gas and the eighth child prefers charcoal. But they all agreed that propane gas and charcoal would save the trees that are becoming more and more sparse. This is what Adama DIARRA, 13 years old and 5<sup>th</sup> grade student had to say on the matter: "I choose propane gas. Instead of going out and cutting down trees for firewood or charcoal, I prefer using propane gas, which does not require all that. Trees are too important for that." Dramane SACKO, who is in the same grade, chose charcoal because in his opinion, "cutting down trees is not good. Charcoal comes from dead trees, which is different from the wood one takes when cutting down trees..."

The students named the following elements of the environment: trees (four times), water, fuel-efficient stoves and gardening (two times), animals and the wind (once). They felt that cutting trees excessively and not replanting the cut trees are behaviors that threaten these elements. All the students stated that they had learned to identify and analyze the environment at school. "I learned to think in this manner because of the school. We learn about conserving and protecting

water and trees.” These remarks were confirmed by the responses students gave to questions about environmental activities at school. In fact, all the students had participated in improvement and replanting activities at school or in the village. All eight had learned how to garden and grow flowers, five learned how to plant trees, six learned how build fuel-efficient stoves and four learned about erosion-fighting techniques. It should be noted here that even the school’s environment is educational for the students. Indeed, when the student arrives at school, he or she enters a world where everything he or she reads, sees and touches reminds him or her of the importance of fighting against desertification. Thus the following slogan can be seen on a sign outside the school: **“School + People in the fight against desertification”**. In addition, the students have built a fuel-efficient stove right in the middle of the ornamental flowerbed where PFIE is inscribed, to show the importance of this tool in the fight against desertification. This thought for the day can be read in the same flowerbed, **“Fuel-efficient stoves will bring an end to excessive cutting of trees. PFIE yearns for a green Sahel.”** It is therefore normal to see the students talking to their respective families about topics such as fuel-efficient stoves, replanting and sanitary improvement projects.

### **Parents / The Community**

The meeting with the community here took place in two phases. We first had a collective interview with seven representatives of the community, three of whom were women. Then, we met individually with three parents of students (two women and one man).

Based on these interviews, the following points can be made:

- the environmental issues cited by the population were water, the fact that the village is an enclave, sanitary improvement and trees;
- people became aware of these problems through the school’s environmental program, which has been in place since 1993-94;

- faced with these problems, the villagers took action. Consequently, the village worked with the school to convince an Arab country to fund the installation of a solar pump at the school. This pump, which is jointly managed by the school and the village, feeds six pools of water on the two hectares of the PFIE site at the school, the school water tap and other water spigots in the village. Trees were replanted at public places such as the market. In fact, we visited a place where we were shown the trees that had been planted by the village dignitaries.
- the village has provided the school with two hectares of land to be used as the PFIE site. This site is fully laid out. Women farm half of it as a vegetable farm and the school uses the rest as an experimental plot or tree nursery.
- the village receives regular updates about the environmental activities at the school. This information is channeled by students, the association of former women students, and through meetings.
- finally, the villagers recognize that the project objectives take their concerns about the environment into consideration. In the fight against desertification, the village has taken measures to protect the “Balanzan”, a thorny tree that constitutes the majority of the vegetation in the region.

### **Principal / Teacher**

The interview with the principal and a teacher revealed that the Massala school has been involved in the project since the experimental phase. The preliminary assessments showed that the school was ready and that the population was highly motivated. At present, the teachers feel that the most important contribution of the project is that the students and their parents know what the environment is. They have also learned to identify which types of behavior and activities can endanger the environment.

### **Elements That Influence Community Involvement in the Project:**



- \$ the creation of a PFIE committee in the village. This committee is composed of two representatives per district (five districts in the village), an advisor to the village chief, some PFIE teachers, two youth representatives, five women representatives, and representatives from among the craftsmen (one blacksmith and one builder). After each training session, the teachers convene this committee in order to share information with it;
- \$ the population allocated two hectares of land to the school for the PFIE site. The people also helped set up the site;
- \$ The people make themselves totally available at all times for anything involving PFIE.

**In terms of community outreach by the school, the following can be noted:**

- \$ the school involved the village in the project from the very start;
- \$ the school organized public awareness campaigns, using the example of the drought in the North as an illustration;
- \$ the theatre group established by the school is made up of students and village youth. Its role is to put on sketches and songs on the theme of desertification. The group composed a song praising reforestation, which according to the principal, reached out to the population. Everyone was so moved that the demand for plants by the population living around the school rose substantially;
- \$ the school organized training sessions about the construction of fuel-efficient stoves for members of the community. Currently, a village woman, who is called “PFIE” specializes in the construction of fuel-efficient stoves. In so doing, she serves as a link between the school and the village.

The results are as follows:

- \$ children have changed their behavior vis-à-vis animals and trees. The children frequently criticize people who secretly cut down trees;

- \$ each child has planted at least one tree near or in front of his or her home or the school;
- \$ a village association of married women who are former students actively participates in educating other women about environmental problems;
- \$ the village has resource people who can build fuel-efficient stoves;
- \$ thanks to the project, the village is equipped with a telephone station and an activity center that runs on solar power.

#### **4-2-4 Dougoufé: Standard, Non-PFIE School**

Dougoufé opened its doors in 1992 and has 372 students in five grades (the school does not have a second grade). The school buildings are dilapidated, the schoolyard is not surrounded by a fence and there is no source of water. The schoolyard is shady.

##### **Students**

The interview in Dougoufé shows that the students do not pay much attention to their environment. In fact, all the students interviewed said they throw trash in the schoolyard so as to not dirty the classroom. Wastewater is thrown either into the street or into the courtyard. In general, this is done to avoid soiling or splashing people. The environmental issues include: water, food, the health center and the school. However, no one is engaging in behaviors that could endanger these elements. The school is not cited as being the source of this information. They did not do any of the activities suggested on the interview sheet and they do not talk of these matters with their families.

##### **Parents / Community**

The environmental issues evoked were water, the roads, health, etc. There are plans to repair the roads after the winter season. There are also a couple of joint reforestation initiatives between the school and the community. The villagers plant the trees and the students water them. The villagers have set up a monitoring and protection system for their streams, but none of these activities are directly linked to the school.

### **Principal / Teacher**

The school does not have any environmental education program. A few isolated cases of cooperation between the school and the village in terms of reforestation, sanitary improvement and road- repair projects were noted. Despite the presence of two teachers from the Massala PFIE school, no environmental education or information programs seem to be looming on the horizon in this school.

### **4-2-5 Nango: Community School**

The Joseph Simon Galliéni de Nango school was established in 1993. The rundown building, which is without shade and is not surrounded by a wall, houses six grades and has 198 students, 64 of whom are girls.

### **Students**

For no particular reason, the students indiscriminately throw trash in the schoolyard or in the classroom. Several of them throw out wastewater in the yard at home. Elements of the environment are animals, trees, gardens and houses. The behaviors that could harm the environment are theft, brush fires, internal rivalries and witchcraft. Besides maintaining a garden, the students did not do any of the other activities suggested on the interview guide. Finally, the issues they discuss with their families are not always related to the environment.

### **Parents / Community**

This group is preoccupied with the issue of infrastructure at the school. Currently, the classes are held in temporary structures, built entirely by the community itself. The village did not receive any subsidies from the government. The fact that the village is an enclave was the second point raised. The final point was health. This aspect remains crucial for the village. They do not know if an environmental education project exists in their school. In short, the population is involved in the school only to the extent that they pay the teachers' salaries and collect the monthly fees.

### **Principal / Teacher**

The principal has only been in this position for a year. His school uses the official curriculum, which does not leave any room for community involvement in designing the curriculum. There is also no environmental education program. All of the teachers work either part-time or as volunteers, which does not promote personal initiative in terms of the environment.

## **4-3 The Rural Site**

Visits were made to rural area schools in the following villages:

- \$ Zanton Ziasso, located 10 km east of Sikasso. PFIE school.
- \$ Missirikoro, located 12 km west of Sikasso. Non-PFIE school.
- \$ Bohi, which is located 20 km west of Zantiébougou.
- \$ Boundioba and Koloni Boundio, which are 12 and 10 km respectively away from Kolondiéba.

All three of these last villages have community schools based on the Save the Children model.

In each village, data collection involved the school administrators (the principal or a member of the school board), the teachers and members of the community (men and women). An interview guide was used to collect the community data.

Upon review of the interviews, it appeared that the communities have one of three types of relationships with the school in the area of environment. Either they have a limited and weak relationship, an open relationship or a very close relationship that is based on reciprocity.

### **1-Limited Relationship**

In the non-PFIE schools, the community developed very weak relationships with the school in school-related matters in general, and in environmental issues in particular. At Missirikoro, for example, the school is built far from the village center. (It is about one kilometer away from the village.) The principal and the teachers maintain informal relationships with the community by enlisting its support for certain activities such as cleaning up the schoolyard at the beginning of each school year. Conversely, the community rarely seeks the help of the school. In fact, the villagers in Missirikoro do not enlist the aid of the school for replanting trees or cleaning up the area around the school. There is, nevertheless, a village committee responsible for monitoring the forest for brush fires. A similar committee exists in Boundioba in the Kolondiéba zone. However, initiatives designed to monitor or protect the forest are developed by the community and do not stem from the school.

### **2-Open Relationships**

This type of relationship is seen with the PFIE schools, where there is mutual exchange between the school and the community. In Zanton Ziasso, the school staged demonstrations for the population on the construction of fuel-efficient stoves. It encourages students to copy these examples in their respective families when doing household work. The school also worked with other support structures to install a solar pump that would give the community access to drinking water.

The school and the population work together to keep the area surrounding the pump clean. They also worked with an NGO called “Catholic Youth” and the agricultural services agent to replant trees at two village sites. The school has developed initiatives for the community by organizing a reforestation campaign at a beloved site in the village. The villagers were reluctant at first, however, because they saw the school as a replica of the administration that was likely to take their land away.

### **3-Close, Reciprocal Relationship**

We observed this type of relationship in the Save the Children community schools. In effect, these community schools are schools that the community established and runs. In the case of the Kolondiéba community schools, the communities determine the curriculum. This means that the curriculum is richer in environmental content than at other types of schools. They are unique in that the curriculum for the first three years is original and different from the national curriculum. The community is involved in the curriculum design. It therefore has the opportunity to voice concerns that it would like to see integrated into the children’s schooling. Thus the knowledge that the children gain at school is directly invested in the community. The students help their parents keep the records of the Village Association. They note the planting cycles for the various plants. They also explain to their parents the disadvantages of excessive cutting of trees. The school’s efforts to maintain a multi-purpose space aroused the curiosity of the population to such an extent that they ended up wanting to do likewise. The multi-purpose spaces in Bohi are proof that the school can improve the environment and lead the people in its area to follow its lead at their own level.

## ***5. Synopsis***

In the final stage of the data presentation, two categories of environmental education were noted. There is the case of public or community schools that do not offer any environmental education programs in their curricula. Some of these schools do have PFIE teachers who have been transferred there from other schools. In theory, these teachers are supposed to initiate environmental education activities so that their colleagues, the students and the community may benefit from the experience they gained elsewhere. Unfortunately, they prefer to wait for the School Inspection office or the project headquarters to instruct them to initiate programs.

The second aspect involves public or community schools that offer an environmental education program. In this respect, we will look at the experiences of the PFIE schools in Torokorobougou A (Bamako), Zambougou, Massala (Ségou) and Zanton Ziasso (Sikasso) in order to extract the factors that determine success and the strategies developed to this end. The main characteristic of these schools is that they have been using the environmental education curriculum since the beginning of the 1990s. Injecting innovation into the school system always meets with resistance by both the practitioners and the beneficiaries. It takes time, perseverance and determination to overcome this resistance. An analysis of the factors of success in some of the schools shows that urban sites and rural sites will use different strategies to achieve the same objective. In the case of developing relationships between school and community, the heads of the schools will proceed differently according to where the school is located. In the city, for example, where the community is more cosmopolitan, the approach is more individual and contact is one of proximity. On the contrary, in rural areas, where social hierarchy is still based on respect for the gerontocracy and certain traditions such as age groups, etc., it is easier to work with a group approach. In the rural

schools that were visited, it took only minutes to mobilize the community, whereas in Bamako, planning is required. In both cases, there were certain factors that enabled successful relationships to be established between the school and the community in terms of environmental management and protection.

In this respect, we identified the factors of success within the school (school-related factors) and those outside the school (non-school-related factors). There are also certain factors that can hinder the development of relationships between the school and the community.



<b>School-Related Factors</b>	
Factors of Success	Actions Developed
1. Teachers have a good mastery of environmental issues	<ul style="list-style-type: none"> <li>• Train teachers in environmental education. A minimum of two training sessions is required.</li> <li>• Equip schools and teachers with educational materials and techniques.</li> </ul>
2. Spirit of initiative developed in teachers	<ul style="list-style-type: none"> <li>• Integrate environmental issues in the disciplines taught in class.</li> <li>• Take the students on fieldtrips to the sites for observation exercises and hands-on activities.</li> <li>• Organize sessions to introduce the community to the topic of management and protection of the environment (tree pruning, bedding out, planting, cf. Zambougou)</li> </ul>
3. Change of attitude and behavior in students	<ul style="list-style-type: none"> <li>• Encourage students to take greater interest in their environment and to monitor it (turning in secret tree cutters).</li> <li>• Record the evolution of student demand for plants and flowers (the “useful theft” in Torokoro).</li> <li>• Encourage instances of children giving advice to their parents (Daoudabougou and Missirikoro).</li> </ul>
4. Establishing a policy of communication	<ul style="list-style-type: none"> <li>• Develop teacher exchanges to discuss environmental issues (Pedagogical Committee on the Environment).</li> <li>• Seize every opportunity (visits, meetings) to inform and educate parents.</li> <li>• Convey the messages through children.</li> <li>• Participate in inter-school meetings.</li> <li>• Present the curriculum to small and large groups.</li> <li>• Use the organized structures (associations, groups) in order to attain the objectives, show sketches, present songs and dances put on by theatre groups composed of members from the school and the community.</li> </ul>
5. Develop school initiatives for the community	<ul style="list-style-type: none"> <li>• Organize public awareness campaigns through activities such as reforestation, construction of fuel-efficient stoves, distribution of plants and sanitary improvements to places.</li> <li>• Set up a multi-purpose site or a space for the school and the people.</li> </ul>

<b>Non-School-Related Factors</b>	
1. Becoming aware of the nature and scope of environmental problems	<ul style="list-style-type: none"> <li>• Help the population identify environmental problems in the region and prioritize them.</li> </ul>
2. Development of collective or individual initiatives to resolve these problems	<ul style="list-style-type: none"> <li>• Develop solutions for each problem.</li> <li>• Encourage collective and/or individual initiatives on environmental issues.</li> </ul>
3. Close collaboration with the school	<ul style="list-style-type: none"> <li>• Develop joint environmental projects with the school (sanitary improvement, reforestation, protection of sites, etc.).</li> <li>• Participate in school activities or invite the school to village activities.</li> </ul>
4. Establishment of community structures	<ul style="list-style-type: none"> <li>• Establish groups to monitor progress (Torokoro) or patrimony (the Missirikoro Hunters Committee, or the Zambougou or Massala Forest Oversight Committee).</li> <li>• Establish a joint school-community theatre troop to inform and educate.</li> <li>• Establish a committee within the community to compliment the school (PFIE Committee in Massala).</li> </ul>

### **Factors That Can Hinder the Project**

**Lack of motivation on the part of the teachers:** environmental education is not merely an accumulation of intellectual knowledge, but practical learning. These types of activities require that the teachers have motivation and conviction. And motivation and conviction are built on solid training for the teacher, regular follow-up by the program heads and emulation of the teacher. In fact, Malian schools today are more like a large experimental field where teachers receive a multitude of innovations to apply each year. The length of teacher training is generally insufficient and, in addition, once the training is concluded, there is no follow-up on the teacher. These are the elements that can take the wind out of a teacher's sails, no matter how dedicated or enthusiastic he or she is.

**Attempts to impose environmental projects** may encounter resistance. Malian schools have recently undergone the “ruralization” experiment, the goal being to “link school to life”. However, the manner in which this experiment was designed and carried out caused the population to reject it. In Missirikoro, the ruralization, water and forest experiments are the source of the people’s reservations vis-à-vis environmental problems.

**Lack of basic resources and equipment** is also a factor that can hinder the success of a project. One of the possible approaches the schools could use to convince the population is proof by example. Malian schools in general and the rural schools in particular are so destitute that they need the most basic equipment before they can initiate certain environmental activities.

## **6. Conclusion**

There have been some successes in terms of developing relationships between the school and the community in Mali that could be replicated elsewhere. Success requires the following essential elements:

- the existence of an environmental education curriculum in the school;
- training programs in environmental education for the teachers and the principal;
- the school needs to be equipped with educational and technical materials;
- a spirit of initiative must be fostered in the practitioners (principal, teacher);
- the project in a village must be sufficiently long in order to progressively overcome any resistance. A project that ends after three or four years has little chance of garnering the support of the community.

In the case of GreenCOM, it is clear that its methodical approach - the incorporation of environmental themes in all areas of education, and, in particular, its participatory aspect - is undoubtedly a strategy that can lead to success and can garner the support of the practitioners, the students and the community. As with any other innovation, however, sufficient time is needed for the teachers to be able to fully integrate it into their educational practices, for the students to understand it, and for the community to adopt it.

## Annexes

### ***School Identification Form***

- 1) **Name of school** .....
- 2) **Region** .....
- 3) **Date established** .....
- 4) **Type of school** Non-PFIE /\_\_\_\_\_/ PFIE /\_\_\_\_\_/Comm /\_\_\_\_\_/
- 5) **Number of grades**

First cycle					
1 <sup>st</sup> grade	2 <sup>nd</sup> grade	3 <sup>rd</sup> grade	4 <sup>th</sup> grade	5 <sup>th</sup> grade	6 <sup>th</sup> grade

Second cycle		
7 <sup>th</sup> grade	8 <sup>th</sup> grade	9 <sup>th</sup> grade

#### 6) **Number of Students**

1 <sup>st</sup> cycle			2 <sup>nd</sup> cycle		
Boys	Girls	Total	Boys	Girls	Total

#### 7) **Infrastructure**

- School buildings      well- maintained      dilapidated      rundown
- Fence                    enclosed                    not enclosed
- Shade                    shady yard                somewhat shady      no shade
- Water source          well                          tap                          none
- Toilets                    yes                          no

#### 8) **Area Surrounding the School**

road                    market                    countryside                    garbage dump                    sports field

# ***Student Interview Guide***

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## **I Identification**

Last/first name (optional).....

Age .....

Sex.....

School.....

Grade .....

Parents' occupation .....

## **II Knowledge of the Environment**

- In the yard of your house or school, where do you throw trash?
  - on the ground
  - in a trash basket
  - out the window
- When you are done washing your shoes, clothes or kitchen utensils, what do you do with the wastewater?
  - I throw it out in the yard
  - I throw it out in the street
  - I throw it out in a gutter or an isolated area
- What does your mother cook with at home?
  - wood
  - charcoal
  - propane gas
  - electricity
- If she uses wood, what kind of stove does she use?
  - traditional stove
  - fuel-efficient stove
  - other (please specify)
- If she uses a fuel-efficient stove, who built it?
- Have you ever participated in a sanitary improvement project?

- at your school
- in you neighborhood/village
- Do you know anyone in your neighborhood/village who cuts wood to sell? Yes /\_\_\_\_/ No /\_\_\_\_/
- If he or she continues this activity, what will become of your village/neighborhood in a few years?

### **III School-Community Relationship**

- Have you ever participated in maintenance activities for the yard at your school?  
Yes /\_\_\_\_/ No /\_\_\_\_/
- If so, how?  
by sweeping  
by pulling weeds  
by picking up trash  
by using the trashcan.
- Have you learned how to do any of the following activities at school?  
plant a tree  
make natural fertilizers  
build an fuel-efficient stove  
grow a garden / flowers / young plants, etc.  
protect animals  
clean up the schoolyard  
fight against soil erosion
- Do you ever talk about what you learn in school with your family?  
Yes /\_\_\_\_/ No /\_\_\_\_/
- If so, to whom do you usually talk about these things?  
What do you talk about?
- Give a concrete example of something you had to explain to someone in your family or your village/neighborhood.
- Has anyone ever asked you questions about what activities you do at school?
- What areas did these questions usually deal with?

- If you had to explain to someone in your family right now what you have learned at school, what would you tell them?
- Why would you choose this topic?



# ***Parent Interview Guide***

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## **I Identification**

Name (optional) .....  
Profession .....  
Relationship                      father /\_\_\_\_\_/                      mother /\_\_\_\_\_/                      guardian /\_\_\_\_\_/

Village.....

## **II Perception of the Environment**

- Talk a little bit about your environment: what are the elements that make up your environment?
- What is the current situation with your environment? What state is it in?
- What contributes to the deterioration of the environment? What are the causes of this deterioration?
- Give at least two concrete examples of the deterioration of your environment.
- What might the consequence of this deterioration be?

## **III Information about Environmental Programs**

- Do you know of any activities in the area of environmental information or protection in your village? Yes /\_\_\_\_\_/ No /\_\_\_\_\_/
- If so, who heads up these activities?
  - school
  - an association
  - an NGO
  - other (please specify)
- How did you hear about them?
  - on the radio
  - on the television
  - during a conversation with your peers
  - personal contact with an organized group
- What are these activities?
- What are the objectives of these activities?
- Are these objectives adapted to the environmental problems in your village?
- If so, what concrete concerns do you have about the environment that are taken into consideration?

- If not, what elements need be incorporated into these activities in order to satisfy you?

#### **IV Relationship With the School**

- Do you have children at school? (how many boys and girls)
- Do you know about the different programs taught to your children at school?
- Do you know if there is an educational or information program about the environment? Yes /\_\_\_\_\_/ No /\_\_\_\_\_/
- If so, can you tell us what the objectives of this program are?
- If not, do you feel it is important to introduce environmental education into the school? Yes /\_\_\_\_\_/ No /\_\_\_\_\_/
- If so, why?
- If not, why?
- Has the school organized any informational or educational meetings about the environment in the village?
- Have you ever participated in activities initiated by the school in your village?
- If so, please specify.
- Have you ever invited the school in your village to participate in actions you or the village initiated? If so, please specify.

# ***Collective Interview Guide for the Community***

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Name of the village .....

Name of the school .....

Number of participants in the interview

Number of women /\_\_\_\_\_/                      Number of men /\_\_\_\_\_/

## **I      General Considerations about the Environment**

- Do you know what makes up your environment and what the elements of your environment are?
- Are you aware of any environmental problem(s) that directly affect your neighborhood or village?
- List in order of importance at least three environmental problems that you feel are cause for concern.
- Are there any individual or collective actions planned or already underway to deal with these problems?
- If so, what are these measures? (one measure per problem)
- If not, what do you intend to do for each problem?
- Have you ever performed or participated in any of the following actions:
  - replanting trees
  - sanitary improvement
  - restoration or protection
  - other collective projects (please specify)

## **III    School-Related Aspects**

- Do you know what environmental protection activities the school in your village is carrying out?
- If so, how did you hear of them?
  - from your children who go to school
  - during a school/community meeting
  - during conversations with other parents
  - other (please specify).
- What do these activities consist of?
- Were you asked to participate in defining these activities?
- If not, did you agree with their proposals?
- At what point did you become involved with this project?
- Who got you involved and why?
- What role did you play in implementing these activities?

- After the project was set up, did the school ever initiate activities for the population?
- What were these activities?
- Did you ever participate (individually or collectively) in these activities?
- Did you gain anything from them?
- If you had a say, what environmental activities would you suggest that the school do? Why?
- How many children do you have at school? (Number of boys and girls)
- How do you participate in their education?
- What do you do to help your children learn better at school?
- Do your children who attend school bring home information about what they are learning?
- What area does this information fall under?
- Do they bring home specific information about the environment?
- If so, how have you used this information?
- If not, are you willing to seek out this information and for what reason?

## ***School Interview Guide (Principal or Teachers)***

- How long have you participated in the PFIE?
- How did your school become involved in the project?
- What factors influenced your school's decision to become involved?
- How has this program contributed to your school?  
to the students?  
to the community?
- What constraints did you encounter in implementing the PFIE?
- What relationship does the school maintain with the community?
- Has the relationship between the school and the community changed/varied since the PFIE was initiated? How has it changed?
- Have there been negative changes? If so, what were they?
- How has the community participated in defining the content of your curriculum and school activities?
- Since implementing the PFIE, have you carried out any environmental activities? If so, what were they?
- What motivated you to choose this type of project?
- What were the educational objectives of these projects?
- Were these objectives met?
- How did you view these results?
- Did you consider the needs of the community in choosing the environmental projects?
- Why and how?
- Have you noticed whether your environmental projects have improved or not since the PFIE was launched?
- Have you noticed a change in the behavior of the students and the community vis-à-vis the environment?
- How did the school contribute to this change?
- In addition to the PFIE and the educational teams (local or national), is anyone else involved in your environmental activities?
- Who are they? What role does each one play?
- What are the results of this cooperation?
- Generally speaking, how do you assess the achievement of the students in your school? (For example, discuss the achievements over the past three or four years.)
- More specifically, how do you assess their achievements in environmental education? (For example, discuss the achievements over the past three or four years.)
- What educational aspects influence these achievements?
- In assessing the knowledge base of 5<sup>th</sup> or 6<sup>th</sup> grade students, what areas should be tested?